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ASSIGNMENT BOOKLET 4A

MAT2225 Mathematics 24
Module 4: Section 1 Assignment and Section 2 Assignment

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4

MATHEMATICS 24

Module 4
Assignment Booklet 4A

Learning Technologies Branch

Alberta LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Section 1 Assignment	18	
Section 2 Assignment	17	
	35	

Teacher's Comments

Mathematics 24
Module 4: Maps, Data, and Probability
Assignment Booklet 4A
Section 1 Assignment and Section 2 Assignment
Learning Technologies Branch
ISBN 0-7741-2602-7

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The Learning Technologies Branch acknowledges with appreciation the Alberta Distance Learning Centre and Pembina Hills Regional Division No. 7 for their review of this Assignment Booklet.

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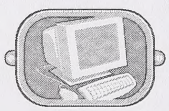

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ASSIGNMENT BOOKLET 4A
MATHEMATICS 24: MODULE 4
SECTION 1 ASSIGNMENT AND SECTION 2 ASSIGNMENT

This Assignment Booklet is worth 35 marks out of the total 100 marks for the assignments in Module 4. The value of each assignment and each question is stated in the left margin.

Read all parts of your assignment carefully and record your answers in the appropriate places. If you have difficulty with an assignment, go back to your Student Module Booklet and review the appropriate lesson. Be sure to proofread your answers carefully before submitting your Assignment Booklet.

Section 1 Assignment: Maps and Time

18

Clearly show how you arrived at your answers by showing your work.

1. a. Using the provided driving distance table, find the following driving distances.

Driving Distances Between Some Canadian Cities

	Charlottetown	Edmonton	Fredericton	Halifax	Ottawa	Quebec	Regina	St. John's	Saskatoon	Thunder Bay	Toronto	Vancouver	Victoria	Whitehorse	Winnipeg	Yellowknife
Charlottetown		4949	359	232	1374	945	4163	1294	4421	2878	1724	5985	6051	7034	3592	6460
Edmonton	4949		4598	5082	3574	4035	785	6212	528	2071	3455	1244	1310	2086	1357	1511
Fredericton	359	4598		346	1024	586	3813	1622	4070	2527	1373	5634	5700	6684	3241	6109
Halifax	232	5082	346		1508	912	4297	1349	4554	3011	1857	6119	6185	7168	3726	6593
Ottawa	1374	3574	1024	1508		460	2786	2638	3046	1503	399	4611	4677	5660	2218	5086
Quebec	945	4035	586	912	460		3249	2208	3507	1963	810	5071	5137	6120	2678	5546
Regina	4163	785	3813	4297	2786	3249		5427	257	1286	2670	1822	1888	2871	571	2297
St. John's	1294	6212	1622	1349	2638	2208	5427		5684	4141	2987	7248	7314	8298	4855	7723
Saskatoon	4421	528	4070	4554	3046	3507	257	5684		1543	2927	1677	1743	2614	829	2039
Thunder Bay	2878	2071	2527	3011	1503	1963	1286	4141	1543		1384	3108	3174	4157	715	3582
Toronto	1724	3455	1373	1857	399	810	2670	2987	2927	1384		4494	4558	5528	2099	4966
Vancouver	5985	1244	5634	6119	4611	5071	1822	7248	1677	3108	4494		66	2697	2232	2411
Victoria	6051	1310	5700	6185	4677	5137	1888	7314	1743	3174	4558	66		2763	2298	2477
Whitehorse	7034	2086	6684	7168	5660	6120	2871	8298	2614	4157	5528	2697	2763		3524	2704
Winnipeg	3592	1357	3241	3726	2218	2678	571	4855	829	715	2099	2232	2298	3524		2868
Yellowknife	6460	1511	6109	6593	5086	5546	2297	7723	2039	3582	4966	2411	2477	2704	2868	

(1) **i.** Fredericton to Edmonton _____

(1) **ii.** Edmonton to Yellowknife _____

(1) **iii.** Halifax to Victoria _____

(5) **b.** Using the scale on the following map, calculate the actual distance from Kelowna to Drumheller.

1 cm = 100 km 0 100 km

Turn to Section 1: Lesson 2 in the Module 4 Student Module Booklet.

2. a. Convert the following a.m./p.m. times to times from the 24-hour clock.

(1) **i.** 4:35 a.m. _____

(1) **ii.** 11:23 p.m. _____

b. Convert the following 24-hour times to the 12-hour a.m. and p.m. clock.

(1) **i.** 17:25 h _____

(1) **ii.** 09:03 h _____

c. Boxing Day is on December 26. All times in this question are for Boxing Day.

(1) **i.** If it is 11:00 a.m. in Vancouver, British Columbia, what time is it in Halifax, Nova Scotia? _____

(1) **ii.** If it is 2:35 p.m. in St. John's, Newfoundland and Labrador, what time is it in Regina, Saskatchewan? _____

(1) **iii.** If it is 9:00 p.m. in Winnipeg, Manitoba, what time is it in Whitehorse, Yukon Territory? _____

d. La Fête Nationale is celebrated in Quebec on June 24. All times in this question are for la Fête Nationale.

(1) **i.** If it is 11:59 a.m. in Regina, Saskatchewan, what time is it in Montreal, Quebec? _____

(1) **ii.** If it is 2:14 p.m. in Quebec, what time is it in Peace River, Alberta? _____

(1) **iii.** If it is 1:35 p.m. in Truro, Nova Scotia, what time is it in Victoria, British Columbia? _____

Turn to Section 1: Conclusion in the Module 4 Student Module Booklet.

17

Section 2 Assignment: Data

Clearly show how you arrived at your answers by showing your work.

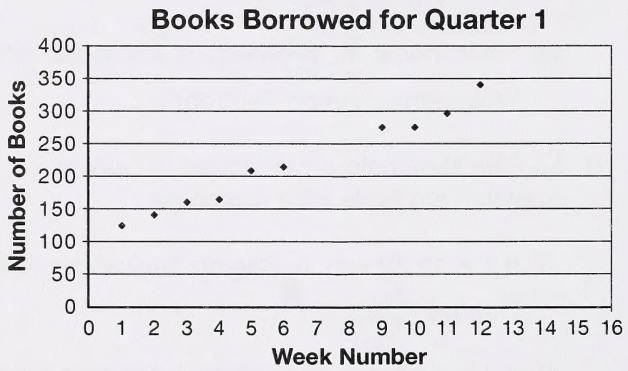
5

1. Use a spreadsheet program to create a bar graph for the following data. Attach your graph to the Assignment Booklet.

Since starting grade 7 in her junior-senior high school, Louise has been keeping track of the wins and losses of the school's basketball teams. The Gold Eagles have had seasons of 18, 19, 19, 20, and 19 wins in 30-game seasons. The Screaming Eagles have had seasons of 18, 19, 24, 22, and 23 wins out of 30 games.

Turn to Section 2: Lesson 2 in the Module 4 Student Module Booklet.

2. Sammy graphed some data about the number of books borrowed from the local library. The graph follows. Sammy wasn't able to get data for all of the weeks.



2 **a.** Draw a line of best fit on the graph.

1 **b.** Use the line of best fit to interpolate a value for week 8. _____

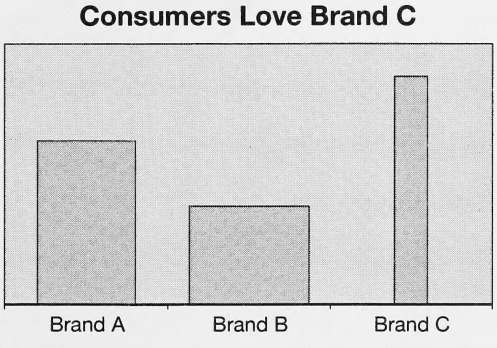
1 **c.** Use the line of best fit to extrapolate a value for week 15. _____

Turn to Section 2: Lesson 3 in the Module 4 Student Module Booklet.

3. a. The advertising department of a company selling Brand C orange juice was given the following survey results.

Brand	Users as a Percentage of Those Surveyed
Brand A	30%
Brand B	52%
Brand C	18%

They created the following graph for inclusion in their advertisements.



(1) **i.** Is this a fair and accurate way to show the data? _____

(2) **ii.** Explain why or why not.

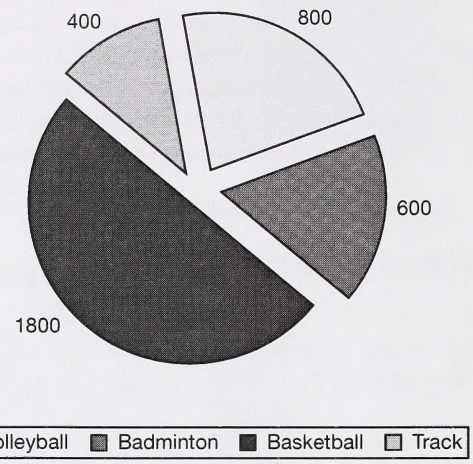
_____

_____

_____

(3) **b.** Several conclusions are listed that relate to the following circle graph. Not all of them can be concluded reasonably from the graph. Mark each reasonable conclusion with a check mark.

Student Hours Spent at Various Sports



- ❑ Students spend more time on volleyball than track.
- ❑ Students spend the least amount of time on track.
- ❑ Students spend the most amount of time on volleyball.
- ❑ More students play badminton than take part in track.
- ❑ More students play volleyball than badminton.
- ❑ Basketball is the most popular sport.

(2) **c.** Were any of the choices in part b hard to make? Explain what your difficulties were.

_____

_____

_____

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Turn to Section 2: Conclusion in the Module 4 Student Module Booklet.

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ASSIGNMENT BOOKLET 4B

MAT2225 Mathematics 24
Module 4: Section 3 Assignment and Final Module Assignment

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4

MATHEMATICS 24

Module 4
Assignment Booklet 4B

Learning Technologies Branch

Alberta LEARNING

FOR TEACHER'S USE ONLY

Summary

	Total Possible Marks	Your Mark
Section 3 Assignment	30	
Final Module Assignment	35	
	65	

Teacher's Comments

Mathematics 24
Module 4: Maps, Data, and Probability
Assignment Booklet 4B
Section 3 Assignment and Final Module Assignment
Learning Technologies Branch
ISBN 0-7741-2603-5

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ASSIGNMENT BOOKLET 4B
MATHEMATICS 24: MODULE 4
SECTION 3 ASSIGNMENT AND FINAL MODULE ASSIGNMENT

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Read all parts of your assignment carefully and record your answers in the appropriate places. If you have difficulty with an assignment, go back to your Student Module Booklet and review the appropriate lesson. Be sure to proofread your answers carefully before submitting your Assignment Booklet.

(30)

Section 3 Assignment: Probability

Clearly show how you arrived at your answers by showing your work.

1. a. Leonardo has a red 4-sided die and a green 6-sided die.

(5)

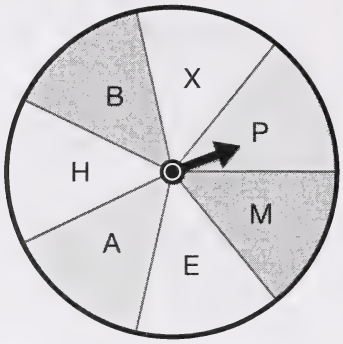
i. Complete the following table to find the sums of the possible outcomes of rolling these two dice. A few are calculated for you.

	1	2	3	4
1	1 + 1 = 2		1 + 3 = 4	
2				
3				
4		4 + 2 = 6		
5				
6				6 + 4 = 10

(4)

ii. If he rolls these two dice, what is the probability that the sum will be 6?

b. Julie is given a spinner like the one that follows.



(4) **i.** Julie spins the arrow. What is the probability it will stop on H?

(4) **ii.** In English, the letters A, E, I, O, and U are known as vowels. What is the probability that the arrow will stop on a vowel when Julie spins the arrow?

Turn to Section 3: Lesson 2 in the Module 4 Student Module Booklet.

2. a. Alisa has been playing with a red 4-sided die. The following table shows the results of her play. She recorded her results each day for a week.

	Number of 1's	Number of 2's	Number of 3's	Number of 4's	Sum
Monday	21	16	21	10	
Tuesday	5	2	17	14	
Wednesday	23	23	4	18	
Thursday	18	29	6	21	
Friday	24	2	26	38	
Saturday	32	35	12	30	
Sunday	3	31	13	30	
Sum					

(1) **i.** How many times did she roll her red die? _____

(1) **ii.** How many times did she roll a 3? _____

(1) **iii.** How many times did she roll a 1? _____

(2) **iv.** What is the experimental probability of rolling a 3?

(2) **v.** What is the experimental probability of rolling a 1?

b. The following table shows the expected frequency of letters in an average 1000-letter-long English paragraph.

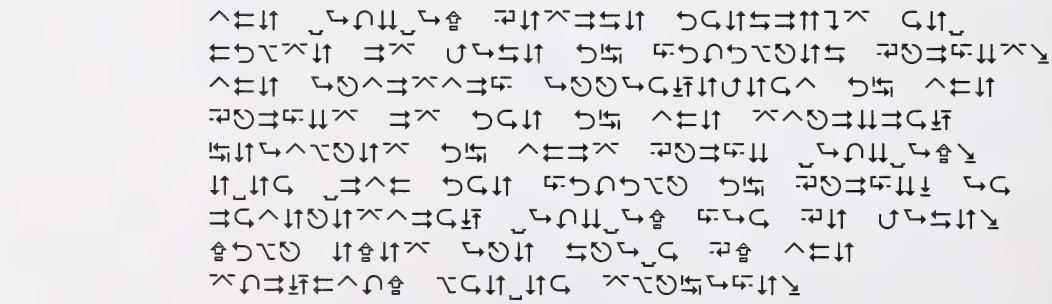
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
73	9	30	44	130	28	16	35	74	2	3	35	25	78	74	27	3	77	63	93	27	13	16	5	19	1

(4)

i. What is the probability that a randomly chosen letter in an English story will be a vowel?

(2)

ii. An English spy in a hurry encoded a message and sent it off. It was intercepted. The non-classified part of the intercepted message follows.



The spy catcher did some frequency analysis. It is shown in the following table.

⊂	⊃	∪	∩	∋	∈	∧	∨	⊥	∥	∦	∠	∟	∝	∞	∫	∬	∭	∮	∯	∰	∱	∲	∳	∴	∵
15	14	0	0	16	15	15	7	2	9	0	7	0	17	7	9	6	30	7	4	9	17	1	8	7	3

Which symbol is most likely to be the letter E? Explain the reasoning behind your choice.

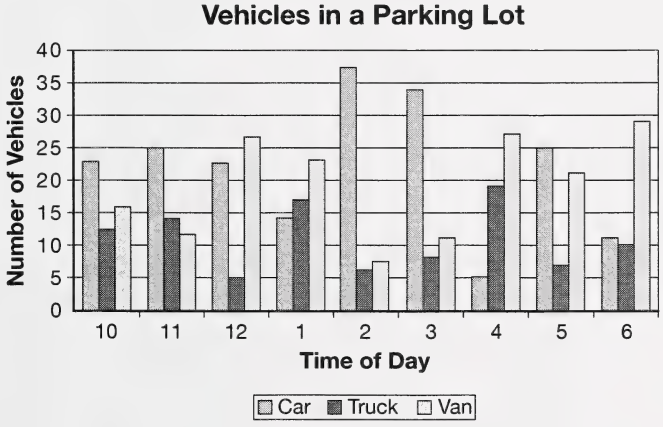
Turn to Section 3: Conclusion in the Module 4 Student Module Booklet.

(35)

Final Module Assignment

Clearly show how you arrived at your answers by showing your work.

1. Use the information in the following graph to answer the questions.



(2) **1. a.** When were more than 25 vans parked in the parking lot?

(2) **b.** When were more than 25 cars parked in the parking lot?

(2) **c.** Which was more likely to be in the parking lot, a car or a van?

(5) **2.** Create a broken-line graph to display the following data. Attach the graph to this page of the Assignment Booklet.

This data is the average number of hours of bright sun per month.

Month	Number of Hours	Month	Number of Hours	Month	Number of Hours
January	50	May	220	September	130
February	70	June	210	October	100
March	110	July	190	November	60
April	170	August	180	December	40

(2) **3. a.** The scale on a map reads 1 to 500 000. You measure the length of a lake on the map. The measurement is 4.8 cm. How long is the lake in the real world? (Give your answer to the nearest tenth of a kilometre.)

(2) **b.** You've driven along a straight road between two small towns many times. You know the distance between them is 19.4 km. You have a map with a scale of 1 to 350 000. If you measured the distance between them on your map, what would it be? (Give your answer to the nearest tenth of a centimetre.)

(1) **4. a.** The clock on the wall in the fishing lodge at Lac La Ronge, Saskatchewan, says 10:25. You've come in from a great summer day of fishing. The sunset as you reached shore was spectacular. You wonder if your grandparents in Halifax would like to hear about your first fishing holiday. What time would it be in Halifax, Nova Scotia?

(1) **b.** Your aunt calls you on New Year's Day, all excited about the beautiful sunrise. If she is in St. John's, Newfoundland, and you are in Canmore, Alberta, about what time would it be? (Sunrise in Newfoundland at the new year is about 07:49 h.)

(4) **5.** Use a spreadsheet to create a circle graph to display the following data. Attach the graph to the Assignment Booklet.

This data is the sales results of a flower-vending cart on a busy downtown street.

Colour of Flower	Number Sold
Red	65
Yellow	50
Blue	27
Gold	43
White	64
Purple	41

(3) **6. a.** Rene is about to roll a 4-sided green die and a 12-sided purple die. What is the theoretical probability of rolling a sum of 8?

(3) **b.** The following table shows the results of rolling Rene's two dice 2880 times. What is the experimental probability of rolling a sum of 7?

Sum of the Two Dice	Number of Occurrences	Sum of the Two Dice	Number of Occurrences
2	77	10	239
3	126	11	227
4	190	12	216
5	219	13	255
6	239	14	184
7	258	15	126
8	245	16	48
9	231		

7. The following table shows the number of pennies in Joe's pocket for several days in December.

Date	Number of Pennies	Date	Number of Pennies
7	3	13	11
8	4	15	18
9	7	16	18
10	7	17	20
11	8		

(6) **a.** Create a scatter plot of the given data. Add a line of best fit to the graph. Attach the graph to the Assignment Booklet.

(1) **b.** Use the line of best fit to predict how many pennies would have been in Joe's pocket on December 14.

_____

(1) **c.** Use the line of best fit to predict how many pennies would have been in Joe's pocket on December 20.

_____

Submit your completed Assignment Booklet 4B to your teacher to be marked.

Turn to Module 4: Review in the Module 4 Student Module Booklet.

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